

IN THE CLAIMS:

The following is a complete listing of claims in this application.

1. (currently amended) A ~~surface treating~~ method for improving fatigue strength of a titanium part, comprising the steps of:

~~determining an effective thickness correlating hardness of a hard oxide film to be formed on a surface of the titanium part against thickness of the film to determine an effective thickness corresponding to a predetermined desired film hardness;~~

~~determining an effective correlating the hardness against surface roughness of the hard oxide film to determine an effective surface roughness corresponding to the desired film hardness; and~~

~~oxidation treating the surface of the titanium part under a desired treating temperature and a desired treating time conditions of temperature and time such that both of the determined effective thickness and effective surface roughness are satisfied corresponding to the desired film hardness are obtained,~~

wherein the effective thickness is 14 micrometers or less, and the effective surface roughness Rz is 3.0 micrometers or less;

~~wherein the effective thickness of the film corresponds to a required hardness and is determined from a correlation of the hardness against the film thickness of the hard oxide film.~~

Claims 2-4 (canceled).

5. (original) A method as defined in claim 1, wherein the desired treating temperature is 730 degrees C or less.

6. (previously presented) A method as defined in claim 1

further comprising the step of treating the surface of the titanium part after the oxidation treating step.

Claims 7-9 (canceled).

10. (new) A method as defined in claim 1, wherein reduction rate of the fatigue strength is less than 20%.

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